

Claims:

1. A launch and recovery system for unmanned underwater vehicles (UUV), comprising:

a watercraft capable of navigating on a water surface, said watercraft having a stern endwall movable between a first position and a second position, said stern endwall being substantially vertical in said first position and being angled downward and away from said watercraft to define a ramp that extends toward the water surface in said second position;

a storage platform mounted on said watercraft for defining a storage area for at least one UUV, said storage platform having a forward end and an aft end wherein said aft end terminates at said stern endwall;

an arm pivotally mounted to said watercraft at a position forward of said storage platform, said arm having an outboard end that can be extended to positions aft of said watercraft and on either side thereof based on a pivot position of said arm, said arm being retractable such that said outboard end is positionable over said storage platform;

capture means, mounted to said outboard end of said arm, for capturing a UUV that maneuvers thereto; and

homing means coupled to said arm for transmitting a homing signal through the water for use by the UUV in

24 maneuvering to said capture means.

1 2. A launch and recovery system as in claim 1 wherein said  
2 storage platform comprises a bed of freely-rotating rollers  
3 that support each said UUV thereon.

1 3. A launch and recovery system as in claim 1 wherein said  
2 storage platform comprises a bed of low-friction slides that  
3 support each said UUV thereon.

1 4. A launch and recovery system as in claim 1 wherein said  
2 storage platform comprises a bed of motorized rollers that  
3 support each said UUV thereon.

1 5. A launch and recovery system as in claim 4 further  
2 comprising means coupled to said motorized rollers for  
3 selective operation thereof wherein each said UUV can be  
4 manipulated on said storage platform.

1 6. A launch and recovery system as in claim 1 wherein said  
2 capture means comprises a loop for cooperation with a hook  
3 mounted on each said UUV.

1 7. A launch and recovery system as in claim 1 wherein said

2        homing means is an acoustic-based system that generates an  
3        acoustic signal as said homing signal.

1        8. A launch and recovery system as in claim 1 wherein said  
2        homing means is an optical-based system that generates an  
3        optical signal as said homing signal.

1        9.    A launch and recovery system for unmanned underwater  
2        vehicles (UUV), comprising:

3            a watercraft capable of navigating on a water surface,  
4        said watercraft having a stern endwall pivotable about a  
5        horizontal axis thereof between a first position and a second  
6        position, said stern endwall being substantially vertical in  
7        said first position and being angled downward and away from  
8        said watercraft to define a ramp that extends toward the  
9        water surface in said second position;

10          a storage platform mounted on said watercraft for  
11        defining a storage area for at least one UUV, said storage  
12        platform having a forward end and an aft end wherein said aft  
13        end terminates at said horizontal axis;

14          a telescopic arm pivotally mounted to said watercraft  
15        at a position forward of said storage platform, said  
16        telescopic arm having an outboard end that can be extended to  
17        positions aft of said watercraft and on either side thereof  
18        based on a pivot position of said telescopic arm, said  
19        telescopic arm being retractable such that said outboard end  
20        is positionable over said storage platform from said  
21        positions aft of said watercraft;

22          capture means, mounted to said outboard end of said  
23        telescopic arm, for capturing a UUV that maneuvers thereto;  
24        and

25           homing means coupled to said telescopic arm for  
26           transmitting a homing signal through the water for use by the  
27           UUV in maneuvering to said capture means.

1           10. A launch and recovery system as in claim 9 wherein said  
2           storage platform comprises a bed of freely-rotating rollers  
3           that support each said UUV thereon.

1           11. A launch and recovery system as in claim 9 wherein said  
2           storage platform comprises a bed of low-friction slides that  
3           support each said UUV thereon.

1           12. A launch and recovery system as in claim 9 wherein said  
2           storage platform comprises a bed of motorized rollers that  
3           support each said UUV thereon.

1           13. A launch and recovery system as in claim 12 further  
2           comprising means coupled to said motorized rollers for  
3           selective operation thereof wherein each said UUV can be  
4           manipulated on said storage platform.

1           14. A launch and recovery system as in claim 9 wherein said  
2           capture means comprises a loop for cooperation with a hook  
3           mounted on each said UUV.

1        15. A launch and recovery system as in claim 9 wherein said  
2        homing means is an acoustic-based system that generates an  
3        acoustic signal as said homing signal.

1        16. A launch and recovery system as in claim 9 wherein said  
2        homing means is an optical-based system that generates an  
3        optical signal as said homing signal.

1        17. A launch and recovery system for unmanned underwater  
2        vehicles (UUV), comprising:

3            a watercraft capable of navigating on a water surface,  
4        said watercraft having a stern endwall movable between a  
5        first position and a second position, said stern endwall  
6        being substantially vertical in said first position and being  
7        angled downward and away from said watercraft to define a  
8        ramp that extends toward the water surface in said second  
9        position;

10           position determination means mounted on said watercraft  
11        for determining a global position thereof on said water  
12        surface;

13           communication means mounted on said watercraft for  
14        transmitting a signal indicative of said global position  
15        through the water;

16           a storage platform mounted on said watercraft for  
17        defining a storage area for at least one UUV, said storage  
18        platform having a forward end and an aft end wherein said aft  
19        end terminates at said stern endwall;

20           an arm pivotally mounted to said watercraft at a  
21        position forward of said storage platform, said arm having an  
22        outboard end that can be extended to positions aft of said  
23        watercraft and on either side thereof based on a pivot  
24        position of said arm, said arm being retractable such that

25       said outboard end is positionable over said storage platform;  
26               capture means, mounted to said outboard end of said  
27       arm, for capturing a UUV that maneuvers thereto; and  
28               homing means coupled to said arm for transmitting a  
29       homing signal through the water for use by the UUV in  
30       maneuvering to said capture means.

1       18. A launch and recovery system as in claim 17 wherein said  
2       storage platform comprises a bed of freely-rotating rollers  
3       that support each said UUV thereon.

1       19. A launch and recovery system as in claim 17 wherein said  
2       storage platform comprises a bed of low-friction slides that  
3       support each said UUV thereon.

1       20. A launch and recovery system as in claim 17 wherein said  
2       storage platform comprises a bed of motorized rollers that  
3       support each said UUV thereon.

1       21. A launch and recovery system as in claim 20 further  
2       comprising means coupled to said motorized rollers for  
3       selective operation thereof wherein each said UUV can be  
4       manipulated on said storage platform.

1        22. A launch and recovery system as in claim 17 wherein said  
2        capture means comprises a loop for cooperation with a hook  
3        mounted on each said UUV.

1        23. A launch and recovery system as in claim 17 wherein said  
2        homing means is an acoustic-based system that generates an  
3        acoustic signal as said homing signal.

1        24. A launch and recovery system as in claim 17 wherein said  
2        homing means is an optical-based system that generates an  
3        optical signal as said homing signal.